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EXAMINER	
O CONNOR, BRIAN T	
ART UNIT	**PAPER NUMBER**
2616	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/723,346	WALTON ET AL.	
	Examiner	Art Unit	
	Brian T. O'Connor	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/23/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 23 is objected to because of the following informalities: Claim 23 recites "one or more transmission indicators" on line 2 and "the transmission requests" on line 4. The Examiner believes this is a typographical error and requests appropriate correction to make the claim clearly written.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 23, 25, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 23, the claim is incomplete for omitting essential elements. The claim recites two steps (receiving and giving) however there is no element or device recited to perform the steps. See MPEP § 2172.01.

With respect to claim 25, the claim is incomplete for omitting essential elements. The claim recites two steps (determining and allocating) however there is no element or device recited to perform the steps. See MPEP § 2172.01.

With respect to claim 30, the claim is incomplete for omitting essential elements. The claim recites five steps (receiving, assessing, allocating, etc) however there is no element or device recited to perform the steps. See MPEP § 2172.01.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 8-17, 19-22, and 25-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Dulin et al. (US 6,567,387; hereafter Dulin).

With respect to claim 1, Dulin discloses a communications system (310, 370, 397, 399 of Figure 3; column 4, line 66 – column 5, line 13) containing a plurality of remote devices (397, 399 of Figure 3) and a scheduler (314, 316 of Figure 3). The scheduler receives transmission requests (Link Parameters of Figure 3) from the remote devices; each request contains a transmission rate and a level of service (column 11, lines 6-30). The scheduler contains a software or logic unit (316 of Figure 3) that performs an algorithm with a decision to assign a dataflow to blocks based on request of remote devices (1320 of Figure 13; Figure 14; viewed as second logic) and a decision to continue allocating blocks (these blocks viewed as equivalent to a capacity reservation) if there are any remaining blocks (1350 of Figure 13; Figure 14; viewed as first logic). The blocks are assigned according to a collection of one or more data requests from the remote devices (this collection is viewed as equivalent to an admission profile; column 13, lines 35-58).

With respect to claim 2, Dulin further discloses that the decision (1350 of Figure 13) will stop allocating blocks when a frame is completely filled.

With respect to claim 3, Dulin further discloses that the decision (1320 of Figure 13) allocates blocks in order of priority from the transmission request (column 13, lines 35-52; where the block weight is used to allocate the un-used blocks is a frame).

With respect to claim 4, Dulin further discloses that each transmission request includes a level of service (CBR or UBR; column 11, lines 6-30).

With respect to claim 5, Dulin further discloses that the decision (1320 of Figure 13) allocates blocks in order of priority from the transmission request (column 13, lines 35-52; where the block weight is used to allocate the un-used blocks is a frame). Also the decision will use the level of service (CBR or UBR) to obtain a block weight (column 11, lines 4-5).

With respect to claim 6, Dulin further discloses that a group of service levels is CBR (constant bit rate) (column 11, lines 12-21); this is viewed as equivalent to a guaranteed quality of service.

With respect to claim 8, Dulin discloses a communications device (310 of Figure 3; column 4, line 66 – column 5, line 13) operating with a plurality of remote devices (397, 399 of Figure 3) and a scheduler (314, 316 of Figure 3). The scheduler receives transmission requests (Link Parameters of Figure 3) from the remote devices; each request contains a transmission rate and a level of service (column 11, lines 6-30). The scheduler contains a software or logic unit (316 of Figure 3) that performs an algorithm with a decision to assign a dataflow to blocks based on request of remote

devices (1320 of Figure 13; Figure 14) and a decision to continue allocating blocks (these blocks viewed as equivalent to a capacity reservation) if there are any remaining blocks (1350 of Figure 13; Figure 14). The blocks are assigned according to a collection of one or more data requests from the remote devices (this collection is viewed as equivalent to an admission profile and the flow associated with each request is viewed as equivalent to a time period; column 13, lines 35-58).

With respect to claim 9, Dulin further discloses that the decision (1350 of Figure 13) will stop allocating blocks when a frame is completely filled.

With respect to claim 10, Dulin further discloses that the decision (1320 of Figure 13) allocates blocks in order of priority from the transmission request (column 13, lines 35-52; where the block weight is used to allocate the un-used blocks is a frame).

With respect to claim 11, Dulin further discloses a receiving device (318 of Figure 3) to accept transmission requests from the remote devices.

With respect to claim 12, Dulin further discloses a multitude of data queues (SF1, SF2, SF3, SFN of Figure 9A) and a MAP (MAP of Figure 9A) that is created where there is data in the data queues.

With respect to claim 13, Dulin further discloses a multitude of transmitters (354, 344, 374 of Figure 3) that transmit a MAP (column 5, lines 51-56), containing permission to transmit or receiver during a period of time, to the remote devices.

With respect to claim 14, Dulin further discloses an admissions control unit (316, 318 of Figure 3) to accept transmission requests from the remote devices and provide blocks to those flows (1320 of Figure 13) based on the mode and bandwidth

available (column 15, lines 3-20). A collection of block weights is also managed and updated with each transmission request (column 13, lines 40-47; where the updates to block weight is viewed as equivalent to modifying an admission profile).

With respect to claim 15, Dulin further discloses that each transmission request includes a level of service (CBR or UBR; column 11, lines 6-30) for one or more remote devices.

With respect to claim 16, Dulin further discloses that the decision (1320 of Figure 13) allocates blocks in order of priority from the transmission request (column 13, lines 35-52; where the block weight is used to allocate the un-used blocks is a frame). Also the decision will use the level of service (CBR or UBR) to obtain a block weight (column 11, lines 4-5).

With respect to claim 17, Dulin further discloses that a group of service levels is CBR (constant bit rate) (column 11, lines 12-21); this is viewed as equivalent to a guaranteed quality of service.

With respect to claim 19, Dulin further discloses that the decision (1320 of Figure 13) allocates blocks in order of priority from the transmission request (column 13, lines 35-52; where the block weight is used to allocate the un-used blocks is a frame). The decision will also use the level of service (CBR/first or UBR/second) to obtain a block weight (column 11, lines 4-5). A collection of block weights is also managed according to each transmission request (column 13, lines 40-47; where the updates to block weights is viewed as an admission profile).

With respect to claim 20, Dulin further discloses that CBR are given higher priority than UBR (column 11, lines 4-30) thus CBR must be allocated to blocks in a frame before UBR are allocated blocks in a frame.

With respect to claim 21, Dulin further discloses that scheduling is conducted so that a larger number of blocks will be allocated when a transmission request has a larger block weight (column 13, line 48-51).

With respect to claim 22, Dulin discloses a communications system (310, 370, 397, 399 of Figure 3; column 4, line 66 – column 5, line 13) containing a plurality of remote devices (397, 399 of Figure 3) and a scheduler (314, 316 of Figure 3). The scheduler receives transmission requests (Link Parameters of Figure 3) from the remote devices; each request contains a transmission rate and a level of service (column 11, lines 6-30). The scheduler contains a software or logic unit (316 of Figure 3) that performs an algorithm with a decision to assign a dataflow to blocks based on request of remote devices (1320 of Figure 13; Figure 14) and a decision to continue allocating blocks (these blocks are viewed as equivalent to a capacity reservation) if there are any remaining blocks (1350 of Figure 13; Figure 14). The blocks are assigned according to a collection of one or more data requests from the remote devices (this collection is viewed as equivalent to an admission profile; column 13, lines 35-58).

With respect to claim 25, Dulin discloses a method for a communications system (310, 370, 397, 399 of Figure 3; column 4, line 66 – column 5, line 13) containing a plurality of remote devices (397, 399 of Figure 3) and a scheduler (314, 316 of Figure 3). The scheduler receives transmission requests (Link Parameters of

Figure 3) from the remote devices; each request contains a transmission rate and a level of service (column 11, lines 6-30). The scheduler contains a software or logic unit (316 of Figure 3) that performs an algorithm with a decision to assign a dataflow to blocks based on request of remote devices (1320 of Figure 13; Figure 14) and a decision to continue allocating blocks (these blocks viewed as equivalent to a capacity reservation) if there are any remaining blocks (1350 of Figure 13; Figure 14). The blocks are assigned according to a collection of one or more data requests from the remote devices (this collection is viewed as equivalent to an admission profile; column 13, lines 35-58).

With respect to claim 26, Dulin further discloses that transmission requests (Link Parameters of Figure 3) from the remote devices (397, 399 of Figure 3).

With respect to claim 27, Dulin further discloses a MAP (MAP of Figure 9A; Figure 14; where the MAP contains transmission grants for the remote devices) that is created where there is data in the data queues.

With respect to claim 28, Dulin further discloses that each transmission request includes a level of service (CBR or UBR; column 11, lines 6-30).

With respect to claim 29, Dulin further discloses that the decision (1320 of Figure 13) allocates blocks in order of priority from the transmission request (column 13, lines 35-52; where the block weight is used to allocate the un-used blocks is a frame). Also the decision will use the level of service (CBR or UBR) to obtain a block weight (column 11, lines 4-5).

With respect to claim 30, Dulin discloses a method for a communications system (310, 370, 397, 399 of Figure 3; column 4, line 66 – column 5, line 13) containing a plurality of remote devices (397, 399 of Figure 3) and a scheduler (314, 316 of Figure 3). The scheduler receives transmission requests (Link Parameters of Figure 3) from the remote devices; each request contains a transmission rate and a level of service (column 11, lines 6-30). The scheduler contains a software or logic unit (316 of Figure 3) that performs an algorithm with a decision to assign a dataflow to blocks based on request of remote devices (1320 of Figure 13; Figure 14) and a decision to continue allocating blocks (these blocks viewed as equivalent to a capacity reservation) if there are any remaining blocks (1350 of Figure 13; Figure 14). The blocks are assigned according to a collection of one or more data requests from the remote devices (this collection is viewed as equivalent to an admission profile; column 13, lines 35-58). The scheduler also creates a MAP (MAP of Figure 9A; Figure 14; where the MAP contains transmission grants for the remote devices) and transmits the MAP to the remote devices (column 5, lines 50-55).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dulin in view of Manjanatha et al (Manjanatha et al., "Integrating Differentiated Services

with ATM", Telecommunications Systems, April 2002, pg 403-423; hereafter Manjanatha).

With respect to claims 7 and 18, Dulin further discloses that a group of service levels is UBR (unrestricted bit rate) (column 11, lines 10-31).

Dulin fails to disclose a best effort service level.

Manjanatha, in a disclosure related to service levels in communication systems, suggests that UBR is equivalent to a best effort service level (pg 404, fifth full paragraph; pg 407, Table 2, last row; where the Olympic service is viewed as best effort because it used network load measurements to transport data).

Manjanatha realize the benefit of more efficient networks by using the same groups of service level across different transport protocol networks (pg 403, first full paragraph in Introduction). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to realize that Manjanatha's suggested definition of UBR would apply to Dulin's system.

7. Claims 23, 24, and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollack et al. (US 6,192,026; hereafter Pollack) in view of Haartsen (US 6,650,630).

With respect to claim 23, Pollack discloses a method for scheduling access to a wireless access point (204 of Figure 2) by remote devices (202 [DCD] of Figure 2). Each DCD will send a request access to the AP (column 7, lines 35-44) and the AP will schedule and transmit a permission and acknowledgment burst (column 7, lines 27-34) to the DCDs.

Pollack fails to disclose an admission profile.

Haartsen, in an invention for a wireless base station communicating with several remote terminals (Abstract), discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the method of Pollack.

With respect to claim 24, Pollack further discloses the request access includes a BD sub-field (606 of Figure 6) that indicates the amount of data to transmit (column 9, lines 58-64).

Pollack fails to disclose an admission profile or modifying an admission profile to include new flow requests.

Haartsen, in an invention for a wireless base station communicating with several remote terminals (Abstract), discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51; where the profile is changed depending on the group of transmission requests).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the method of Pollack.

With respect to claim 31, Pollack discloses a device (204 of Figure 2) for scheduling access by remote devices (202 [DCD] of Figure 2). Each DCD will send a request access to the AP (column 7, lines 35-44) and the AP will schedule and transmit a permission and acknowledgment burst (column 7, lines 27-34) to the DCDs.

Pollack fails to disclose an admission profile.

Haartsen, in an invention for a wireless base station communicating with several remote terminals (Abstract), discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the device of Pollack.

With respect to claim 32, Pollack fails to disclose an admission profile containing frames and capacity values associated with each remote device.

Haartsen discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51). The admission profile contains a number of frames and capacity values for each remote terminal (the number of blocks to send in a single frame).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the device of Pollack.

With respect to claim 33, Pollack fails to disclose an admission profile created from a duty factor and frame phase associated with each remote device.

Haartsen discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51). The admission profile contains a bandwidth ratios (column 11, lines 52-64; where the bandwidth ratios are viewed as equivalent to duty factors) and frequency assignments (column 11, lines 9-15).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the device of Pollack.

With respect to claim 34, Pollack further discloses the request access includes a BD sub-field (606 of Figure 6) that indicates the amount of data to transmit (column 9, lines 58-64).

Pollack fails to disclose an admission profile or modifying an admission profile to include new flow requests.

Haartsen, in an invention for a wireless base station communicating with several remote terminals (Abstract), discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51; where the profile is changed depending on the group of transmission requests).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it

would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the device of Pollack.

With respect to claim 35, Pollack discloses a device (204 of Figure 2) for scheduling access by remote devices (202 [DCD] of Figure 2). Each DCD will send a request access to the AP (column 7, lines 35-44) and the AP will schedule and transmit a permission and acknowledgment burst (column 7, lines 27-34) to the DCDs.

Pollack fails to disclose an admission profile.

Haartsen, in an invention for a wireless base station communicating with several remote terminals (Abstract), discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the device of Pollack.

8. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollack in view of Haartsen and further in view of Kumar et al. (US 7,085,279 hereafter Kumar).

With respect to claim 36, Pollack discloses a method for scheduling access to a wireless access point (204 of Figure 2) by remote devices (202 [DCD] of Figure 2). Each DCD will send a request access to the AP (column 7, lines 35-44) and the AP will schedule and transmit a permission and acknowledgment burst (column 7, lines 27-34) to the DCDs.

Pollack fails to disclose an admission profile.

Haartsen, in an invention for a wireless base station communicating with several remote terminals (Abstract), discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the method of Pollack.

Kumar, in the same field of endeavor, discloses a computer readable medium storing a program to perform a connection setup over a packet network in conjunction with a switching network. The computer-readable medium is an electronic, magnetic, optical, or other physical device or means that can be contain or store a computer program for use by or in connection with a computer-related system or method (column 7, lines 51-67). One skilled in the art would have clearly recognized that the method of Pollack would have been implemented in a software module. The implemented software would perform the function with less expense and more flexibility. Therefore, it would have been obvious to have use the technique of Pollack and implement it as taught by Kumar in order to reduce cost and improve the adaptability and flexibility of the networking system.

With respect to claim 37, Pollack further discloses the request access includes a BD sub-field (606 of Figure 6) that indicates the amount of data to transmit (column 9, lines 58-64).

Pollack fails to disclose an admission profile or modifying an admission profile to include new flow requests.

Haartsen, in an invention for a wireless base station communicating with several remote terminals (Abstract), discloses an admission profile generated by the collection of transmission requests from the remote terminals (column 11, lines 46-51; where the profile is changed depending on the group of transmission requests).

Haartsen realizes the benefit of greater throughput for all the remote terminals by scheduling or packing the transmission requests (column 12, lines 12-17). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the method of Haarsen with the method of Pollack.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. O'Connor whose telephone number is 571-270-1081. The examiner can normally be reached on 9:00AM-6:30PM, M-F, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian T. O'Connor
May 29, 2007

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